



MOUNT ALEXANDER BIOENERGY

BIOMASS PLANT

PYROLYSIS BASED COMBINED HEAT AND POWER (CHP)

- ➔ Breaks down organic material in a high temperature oxygen starved chamber to produce biochar and when coupled with a heat exchanger, steam. Steam produced through this renewable timber resource will be displace an equivalent quantity of steam produced by fossil fuel (natural gas) used by Don Smallgoods's operation.
- ➔ No waste materials are combusted
- ➔ Feedstock streams - clean untreated wasted timber and woody waste, some unrecyclable cardboard from Don Smallgoods, potentially 'oversize' from composting facilities, potentially some incidental unrecyclable (non-toxic) polyethylene plastic film wrap from Don Smallgoods, which at high temperature breaks down into carbon dioxide and water, with no residue, no toxic fumes or gases and no residues.
- ➔ Digestate from the Anaerobic Digester which is rich in nitrogen, phosphorus, potassium and carbon, and has value when used in compost or biochar production, rather than being discharged to sewer
- ➔ No mixed waste, no 'toxic waste' and no other plastics will be used.
- ➔ The types of biomass that can be received will be determined by the technology, EPA compliance requirements and influenced by the waste hierarchy.
- ➔ Biochar can be supplied to the agricultural / garden supplies market, industrial processes to scrub and filter emissions and also for medicinal purposes
- ➔ Biochar can be 'activated' with mycorrhizal fungi and enriched with nutrients from AD digestate as a key ingredient for compost and/or bio-fertiliser.
- ➔ When biochar is integrated with topsoil it can help retain moisture and sequester carbon (a 1% increase in soil organic carbon down to 30cm will hold an additional 170,000 litres of water per ha). It can also be added to feedstock to reduce cattle's methane emissions.
- ➔ Stack height is not likely to be more than 10m but probably considerable less, as per EPA requirements.



FACT SHEET
MAB002 DRAFT
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